

AMENDMENT

U.S. Appl. No. Continuation of 09/600,776

a vector comprising an isolated polynucleotide molecule that hybridizes with a nucleotide sequence of SEQ ID No:1 or SEQ ID No:5 under stringent conditions, and which has an index of modification of said potassium channel protein in response to a physiological characteristic of the potassium channel protein; and

b) measuring said index.

¹¹
~~11~~. (New) A pharmaceutical composition which comprises as an active ingredient a compound or a peptide which is capable of significantly modifying the activity of potassium channel protein exclusively expressed in the brain and which is selected by the screening method of claim ¹⁰~~12~~.

¹²
~~12~~. (New) The pharmaceutical composition according to claim ¹¹~~13~~, which is an agent for treating a central nervous system disorder.

¹³
~~13~~. (New) The pharmaceutical composition of claim ¹²~~14~~, which is an agent for treating dementia, cerebral ischemic disorders, or epilepsy.

¹⁴
~~14~~. (New) The pharmaceutical composition according to claim ¹³~~15~~, which is an agent for treating dementia.

¹⁵
~~15~~. (New) A method of screening for compounds and peptides capable of modifying the activity of a potassium channel protein comprising:

a) adding an agent to be tested to a system which comprises a potassium channel protein produced by expressing the protein in a host cell or on a surface of a host cell containing a vector comprising an isolated polynucleotide molecule which comprises a nucleotide sequence encoding an amino acid sequence selected from the group consisting of SEQ ID NO: 2 and

AMENDMENT

U.S. Appln. No. Continuation of 09/600,776

SEQ ID NO: 6 which has an index of modification of said potassium channel protein in response to a physiological characteristic of the potassium channel protein; and

b) measuring said index.

¹⁶
~~18.~~ (New) A pharmaceutical composition which comprises as an active ingredient a compound or a peptide which is capable of significantly modifying the activity of potassium channel protein exclusively expressed in the brain and which is selected by the screening method of claim ¹⁵~~17~~.

¹⁷
~~19.~~ (New) The pharmaceutical composition according to claim ¹⁶~~18~~, which is an agent for treating a central nervous system disorder.

¹⁸
~~20.~~ (New) The pharmaceutical composition of claim ¹⁷~~19~~, which is an agent for treating dementia, cerebral ischemic disorders, or epilepsy.

¹⁹
~~21.~~ (New) The pharmaceutical composition according to claim ¹⁸~~20~~, which is an agent for treating dementia.

²⁰
~~22.~~ (New) A method of screening for compounds and peptides capable of modifying the activity of a potassium channel protein comprising:

a) adding an agent to be tested to a system which comprises a potassium channel protein produced by expressing the protein in a host cell or on a surface of a host cell containing a vector comprising an isolated polynucleotide molecule which comprises a nucleotide sequence selected from the group consisting of the 6th to 3257th nucleotide sequence of SEQ ID NO: 1 and the 4th to 3057th nucleotide sequence of SEQ ID NO: 5, and a nucleotide sequence which is degenerate with respect to said nucleotide molecule, which has an index of modification of said

AMENDMENT

U.S. Appln. No. Continuation of 09/600,776

potassium channel protein in response to a physiological characteristic of the potassium channel protein; and

b) measuring said index.

sub B1 cont.
²¹
~~23.~~ (New) A pharmaceutical composition which comprises as an active ingredient a compound or a peptide which is capable of significantly modifying the activity of potassium channel protein exclusively expressed in the brain and which is selected by the screening method of claim ²⁰~~22~~.

²²
~~24.~~ (New) The pharmaceutical composition according to claim ²¹~~23~~, which is an agent for treating a central nervous system disorder.

a2 cont.
²³
~~25.~~ (New) The pharmaceutical composition of claim ²²~~24~~, which is an agent for treating dementia, cerebral ischemic disorders, or epilepsy.

²⁴
~~26.~~ (New) The pharmaceutical composition according to claim ²³~~25~~, which is an agent for treating dementia.